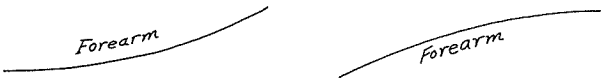
ward, Upward, or one, two, one, &c., &c. The Finger Movement alone is too limited for free writing; but will be found useful in combination with the Forearm Movement, as will be shown.

FORE-ARM MOVEMENT.

6. Assuming the writing position, will you describe the Fore-arm Movement, and give an example of it?

The Fore-arm Movement consists in the action of the forearm upon its muscular rest near the elbow; the hand gliding on the nails of the third and fourth fingers. It may be employed in making strokes in any direction. Examples:



NOTE.—This movement may be made as indicated by the cut, naming the strokes, thus: Fore-arm, Fore-arm, &c., or counting, 1, 2, &c., &c. The Fore-arm Movement is specially adapted to carrying the pen rightward, and leftward, across the paper, and is most efficient in combination with the Finger Movement, as will be shown. It is, however, used exclusively by some excellent penmen; the fingers and wrist being held firmly, to check their independent action. When so used the tips of the third and fourth fingers move in lines corresponding to those produced at the point of the pen.

COMBINED MOVEMENT.

7. Assuming the writing position, will you describe the Combined Movement and give an example?

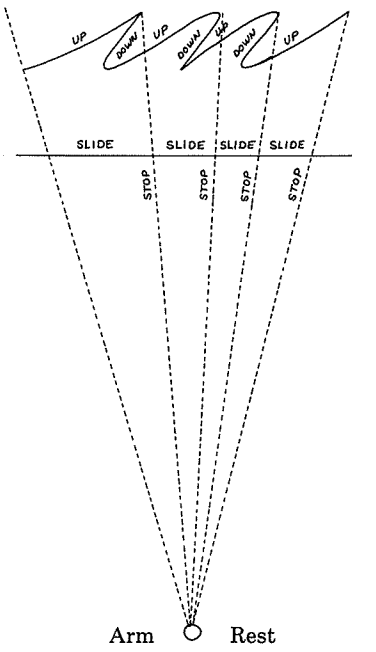
The Combined Movement consists in the united action of the fore-arm, hand and fingers, the fore-arm acting on its muscular rest as a centre, and sliding the hand on the nails of the third and fourth fingers, while the first and second fingers and thumb extend and contract in forming upward and downward strokes.

NOTE.—The combined movement may be first practiced by tracing the combined forms upon the page of Movement Exercises, or any convenient copy line, observing to use the fore-arm power in sliding the hand across the paper. This movement answers the requirements of business use better than any other: it combines the free untiring sweep of the fore-arm, with the delicate shaping powers of the fingers, securing ease and accuracy.

Finger Movement, or action of the 1st and 2d fingers, with the thumb.

Fore-Arm Movement, sliding the hand upon the nails of the 3rd and 4th fingers.

The accompanying diagram illustrates with tolerable accuracy the stimultaneous action of the forearm and fingers, which constitutes the combined movement. Although the special office of the forearm is to transport the pen from left to right horizontally across the page, and the special part of the fingers is to execute the oblique upward and downward lines; yet, in practice, the two forces combine and assist each other. The forearm, particularly, will give to the fingers its firm, steady sympathy in the performance of their part.



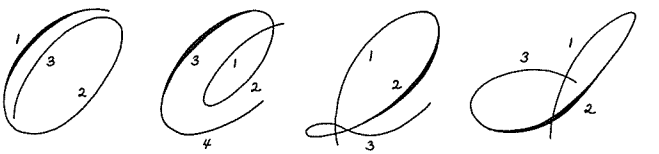
upon the muscles near the elbow.

WHOLE-ARM MOVEMENT.

8. Assuming the writing position, will you describe the Whole-arm Movement, and give an example of it?

The Whole-arm Movement consists in the use of the whole arm from the shoulder, the elbow being raised slightly from the desk, and the hand sliding on the nails of the third and fourth fingers.

EXAMPLES.



NOTE.—The above capitals may be traced with the Whole-arm Movement, and the strokes regulated by counting, as indicated by figures. This movement is mainly used for striking large capitals. Its practice is highly beneficial, as it brings into free action all the muscles from shoulder to fingers.

FORM.

Remarks.—The learner must have clear conceptions of the letters he wishes to form, before writing them. A few persons have the "imitative faculty" well developed, and can easily reproduce forms they have seen; but most need to measure, to analyze, to describe, and to trace, before they can copy with accuracy and grace.

The following practical testimony on the subject is perfectly conclusive, and we give it in preference to any further remarks of our own:

"The Spencerian System of Penmanship was adopted by the Board six years ago, and its introduction was the commencement and the sole cause of a new and a better era of teaching the art of writing. Teachers, at first favorably prepossessed by the grace and beauty seen in all its forms, soon discovered that the most beautiful and artistic penmanship is susceptible of a full and definite analysis; that its elements, taken separately, are so simple that a child can comprehend them, and that they can be arranged, taught, and combined gradually and progressively, until a handwriting as perfect as the models in the text-book rewards the efforts of teacher and pupil. They learned from this system that teaching or learning to write is a mental as well as a mechanical process; that there must be thought as well as motion; that the prototype of every letter and every line, its exact form and proportions, must be so distinctly impressed upon the mind, that it can be described in precise and intelligible language before the hand attempts to execute. Where penmanship is taught in this manner success becomes a mathematical certainty. I have seen the copy-books of entire schools filled up with faultless penmanship, not a single one that was not superior to the best that was produced before the introduction of this system; and an oral examination upon the subject in such schools will interest as much as any exercise on the programme for examination day."—*From Annual Report of the Superintendent of Public Schools of Washington, D. C., November 14, 1871. Hon. J. Ormond Wilson.*

True theory and careful persistent practice are the means by which all may learn to write, with scarcely a limit to the degree of excellence. After a good handwriting is attained, and its use becomes habitual, letters, words and sentences will flow from

the ready pen, with scarcely a thought on the part of the writer as to the manner of executing them.

9. What is a line?

The path of a moving point.

NOTE.—These definitions relate to Penmanship and not to Mathematics.

10. How many kinds of lines are used?

Two.

11. Will you name them?

Straight lines and curved lines.

12. Will you tell how to make a straight line, and give an example?

To make a straight line, the point of the pen or pencil must be moved without change of direction.

EXAMPLE.

13. Will you tell how to make a curved line, and give examples?

To make a curved line, the pen must be moved with a continuous change of direction.

EXAMPLES.

14. How many different kinds of curved lines, and what are they called?

There are two kinds of curved lines. They are called the *Right Curve* and the *Left Curve.*

15. Will you describe a right curve, and make one?

A right curve bends to the right of a straight line, connecting its extremities.

EXAMPLE.

16. Will you describe a left curve, and make one?

A left curve bends to the left of a straight line, uniting its extremities.

EXAMPLE.

17. How many different kinds of lines are there with respect to position, and what are they called?

Three kinds: Horizontal, Vertical, and Oblique or Slanting lines.

18. When is a line said to be horizontal? Give an example.

A line is said to be horizontal when it is level, or one end is no higher than the other.

EXAMPLES.

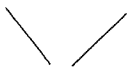
19. When is a line said to be vertical? Give an example.

A line which leans neither to the right nor the left is said to be vertical.

EXAMPLES.

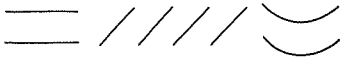
20. When are lines said to be oblique or slanting?

When they are neither vertical nor horizontal.

EXAMPLES. 

21. When are lines said to be parallel?

When lines are equally distant from each other throughout their entire length, they are said to be parallel.

EXAMPLES. 

22. What is an angle?

An angle is the space between two lines that meet in a point.

EXAMPLE.

23. What is a right angle? Give an example.

The space between two straight lines meeting so as to form a square corner.

EXAMPLE.

24. Will you name different kinds of angles?

Right Angle, Acute Angle and Obtuse Angle.

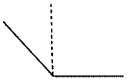
25. What is an acute angle?

The space between two straight lines meeting so as to form a sharp corner, or any angle less than a right angle.

EXAMPLE.

26. What is an obtuse angle?

The space between two lines meeting so as to form a blunt corner, or any angle greater than a right angle.

EXAMPLE. 

MEASURE OF ANGLES.

27. By what do we measure angles?

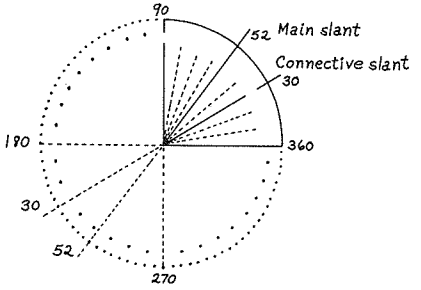
By the circle.

28. How is a circle divided?

Into 360 equal parts, called degrees.

29. How many degrees in a quadrant, or quarter circle?

One quarter of 360 degrees, which is 90 degrees.



30. What angle does the vertical line form with the horizontal, as measured by the circle?

A right angle or an angle of 90 degrees.

31. What angle is formed by a line drawn half way between the vertical and horizontal to the center of the circle?

An angle of 45 degrees.

32. What do you call an angle of 7 degrees greater than that of 45 degrees?

An angle of 52 degrees.

33. What do you call an angle of 22 degrees less than that of 52 degrees?

An angle of 30 degrees.

NOTE.—The student should identify all these points and angles on the diagram.

34. A line forming with the horizontal an angle of 52 degrees may be said to be on what slant?

On a slant of 52 degrees.

35. A line forming with the horizontal an angle of 30 degrees may be said to be on what slant?

On a slant of 30 degrees.

36. In what position are the written letters, vertical or slanting?

Slanting.

37. To which side of the vertical do the letters lean or slant?

To the right.

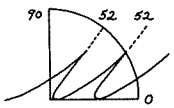
38. What is the slant of 52 degrees in the Spencerian writing called?

The Main Slant.

39. Why is it so called?

Because it is the slant given to most of the main or downward strokes.

EXAMPLE.

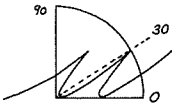


40. What is the slant of 30 degrees called?

The Connective Slant.

41. Why called the connective slant?

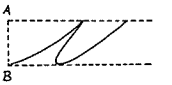
Because a majority of the lines, connecting the main or downward strokes in the small letters, are made on the slant of 30 degrees.

EXAMPLE. 

NOTE.—Measurements are given in this system as efficient aids to the learner in securing the correct forms of letters. The most of these measurements are exact, but in instances where an exact statement would involve a minute fraction, the nearest practical measurement is given, as the safest guide.

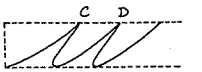
42. What is the unit for measuring the height of letters?

The height of the small *i*, which is called *a space.*

EXAMPLE, A B. 

43. What is the unit for measuring the width of letters?

The distance between the two straight lines in the small *u*, taken horizontally, which is equal to three-fourths of its slanting or angular height.

EXAMPLE, C D. 

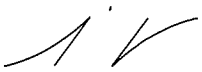
NOTE.—The difference between the height of *i* and the distance between the straight marks in *u*, is so very little—the latter being the less by only one-nineteenth—that it is hardly perceptible in writing of ordinary size. *It is, therefore, practically correct to consider the vertical space (the height of small i) as a standard for measuring both the height and width of letters.*

44. How are strokes combined in forming letters?

Angularly, by short turns, by oval turns, and by loops.

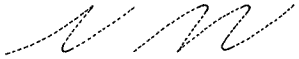
45. How is an angular joining made?

By suddenly stopping the motion of the pen at the end of a stroke, and uniting in a point with the stroke following.

EXAMPLES. 

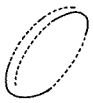
46. How is a short turn made?

By moving from one stroke to another, as short as possible, without making a point, or stopping the motion of the pen.

EXAMPLES. 

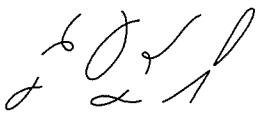
47. How are oval turns made?

By increasing an oval curve near its end, so as to unite with its opposite side by a continuous motion, giving proper width.

EXAMPLE. 

48. How is a loop formed?

A loop is formed of two opposite curves, united by a short turn at one end, and afterwards crossing.

EXAMPLES. 

49. Will you describe an oval?

Direct Oval. Reversed Oval. Reversed Oval.

The general form of the oval is that of an egg. The ovals generally used in writing are elliptical, having ends rounded nearly alike.

50. How many kinds of ovals are employed in writing, and what are they called?

Two kinds—*direct ovals*, and *reversed ovals.*

52. Will you describe the manner of forming the Direct Oval, and give an example?

Begin at the top, and move downward with a left curve to form the left side, and upward with a right curve to form the right side.

EXAMPLE.

53. Describe the manner of forming the Reversed Oval, and give an example.

Move upward with a left curve to form the left side, and downward with a right curve to form the right side.

EXAMPLE.

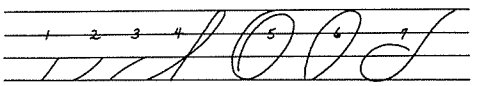
54. What are Principles in writing?

Principles are the constituent parts of letters.

55. How many Principles are there according to the Spencerian System? Give examples of each.

Seven Principles

EXAMPLES.



56. Will you give descriptive names to the several Principles?

The 1st is a *straight line*, the 2d is a *right curve*, the 3d is a *left curve*, the 4th is an *extended loop*, the 5th is a *direct oval*, or capital O, the 6th is a *reversed oval*, the 7th is the *capital stem.*

NOTE. Formerly *Eight* Principles were used, but for securing greater simplicity the present arrangement has been adopted.

57. Which Principles are used in making the Small letters?

The 1st, 2d, 3d, and 4th.

58. Which Principles form the prominent parts of the Capitals?

The 5th, 6th, and 7th. The others are combined with them in forming the minor parts of the capitals.

SMALL LETTERS.

59. What two forms has each letter of the alphabet?

The small and capital form.

60. Into how many classes are the small letters divided, and what are they?

Three; short, semi-extended, and extended or looped.

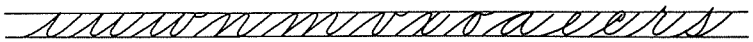
61. What are the heights of these three classes respectively?

Short letters, one space; semi-extended, two spaces; extended or looped, three spaces.

NOTE.—There are several exceptions to this rule to be noticed when the respective letters or their classes are reached.

62. Will you name the thirteen Short Letters?

They are



63. What two short letters are more than a space in height?

The *r* and *s*, which are one-fourth space higher than the rest.

64. Will you describe and form the First Principle?

The First Principle is a straight line, usually on the main slant of 52°.

65. Describe and form the Second Principle.

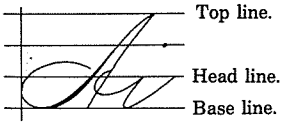
The Second Principle is a right curve, usually on the connective slant of 30°.

66. Will you describe and form the Third Principle?

The Third Principle is a left curve, usually on the connective slant of 30°.

NOTE. The principles are subject to various modifications in forming letters.

67. What do we call the Base Line or Base of a letter?



The line, ruled or imaginary, upon which the letter rests.

NOTE. The horizontal line, ruled or imaginary, at the top of the short letters is sometimes called the *head line;* and that at the top of the capitals is called the *top line.*

68. Will you please measure and analyze the small i*?*

Height, one space; width, two spaces; distance between point and dot, one space.

Analysis: Principles 2, 1, 2.

69. Will you explain the construction of small i*?*

Begin on base line and ascend with a right curve, on connective slant, one space; here unite angularly and descend with a straight line on main slant to base; turn as short as possible without stopping the pen, and ascend with a right curve on connective slant, one space. Finish with a light dot, one space above the straight line on main slant.

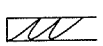
NOTE. Directions are best remembered when immediately put in practice. The pupil should trace a model letter a number of times, repeating and following descriptions until the construction is familiar. During such drill the correct position ought to be observed. The exercise may be profitably varied, and easier movements secured by tracing and counting the strokes. Thus, in the small i: 1, 2, 1. dot.

70. Will you measure and analyze small u*?*

Height, one space; width, three spaces; distance between straight lines, one space.

Analysis: Principles 2, 1, 2, 1, 2.

71. Will you explain the construction of small u*?*



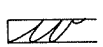
First form the small *i*, as just described (but without dot), then repeat its two last lines. The lines unite in two equal angles at top, and two equal turns at base; the curves are similar and equidistant; the straight lines are parallel.

72. Will you measure and analyze small w*?*

Height, one space; whole width, three spaces; distance from straight line to dot, one-half space; and from dot to end of horizontal curve, one-half space.

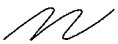
Analysis: Principles, 2, 1, 2, 1, 2, 2.

73. How should the small w *be formed?*



Form like the small *u* to the completion of the second lower turn; thence ascend one space with a right curve to a point one-half space to right of the preceding line; make a light dot, and finish with a horizontal right curve carried one-half space to right.

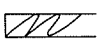
74. Will you measure and analyze small n*?*



Height, one space; width, three spaces.

Analysis: Principles, 3, 1, 3, 1, 2.

75. How should the small n *be formed?*



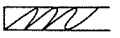
Begin on base line, and ascend with a left curve on connective slant, one space; turn short and descend with a straight line on main slant to base; then unite angularly and ascend with a left curve on connective slant, one space; again turn short and descend with a straight line on main slant to base; finally turn short and ascend with a right curve on connective slant, one space. Let the curves be equal, the turns equal, and the straight lines parallel.

76. Will you please measure and analyze small m*?*

Height, one space; width, four spaces.

Analysis: Principles, 3, 1, 3, 1, 3, 1, 2.

77. How should the small m *be formed?*



The *m* is formed precisely like the *n* with its first half repeated.

78. Will you measure and analyze small v*?*

Height, one space; whole width, two spaces; width from turn to dot one-half space, and from dot to end of horizontal curve, one-half space.

Analysis: Principles, 3, 1, 2, 2.

79. How should the small v *be formed?*

Form like the *n* to the point where it first returns to base line; there turn short and finish with lines precisely like the last two in the *w*.

80. Will you measure and analyze small x*?*

Height, one space; whole width, two spaces; openings at top and base of letter, each one-third space.

Analysis: Principles, 3, 2, 3, 2.

81. How should the small x *be formed?*

Beginning on base line ascend with left curve on connective slant, one space; turn short and descend with right curve, touching base line three-quarters space to right of beginning; without lifting pen ascend to point even with first turn and one-third space to its right; descend with left curve to junction with right; thence diverging continue to base line; turn short, and finish like *u*.

NOTE. Another method of making the *x*, preferred by some, is to *lift the pen* after forming the first half, then put it down even with top turn, and one-third space to its right, and complete the letter as above described.

82. Will you measure and analyze small o*?*

Height, one space; whole width, one and one-half spaces; width of oval, measured horizontally across middle, one-half space; distance from top to end of horizontal curve, one-half space.

Analysis: Principles, 3, 3, 2, 2.

83. How should the small o *be formed?*

Begin on base line and ascend with a left curve on connective slant, one space; join angularly, and descend with a left curve on main slant to base; turn short, and ascend with an opposite right curve meeting the other at top; then carry out a slight horizontal right curve, as in *v* and *w*, one-half space.

84. Will you measure and analyze small a*?*

Height, one space; width, three spaces; width of oval, one-half space.

Analysis: Principles, 3, 3, 2, 1, 2.

85. How should the small a *be formed?*

Begin on base line, and ascend with a left curve one space, and two and one-half spaces to the right; retrace the curve one-quarter its length; then, separating, continue with left curve on main slant to base line; turn short, and ascend with a slight right curve on connective slant to top; joining angularly, finish with lines precisely like the last two of the *i* or *u*.

86. Will you measure and analyze small e*?*

Height, one space; width of loop, one-fourth space, length of loop, two-thirds of a space; entire width of letter, two spaces.

Analysis: Principles, 2, 3, 2.

87. How should the small e *be formed?*

Begin on base line and ascend with a right curve on connective slant, one space; turn short, and descend with a slight left curve on main slant, crossing the first curve at one-third its height, and continuing to base line; turn short, and finish with a right curve, ascending on connective slant, one space.

88. Will you measure and analyze the small c?

Height, one space; length of top, one-third of a space; width of top, one-third space, measured at right angles to slant; entire width of letter, two spaces.

Analysis: Principles, 2, 1, 2, 3, 2.

89. How should the small c *be formed?*

Begin on base line, and ascend by a right curve on connective slant, one space; unite angularly and descend with a straight line on main slant one-third of a space; make a very narrow turn, and ascend with a right curve on main slant one-third of a space; turning very short to left, and descending with a left curve, cross upward curve, continue to base line and finish like the *e*.

90. Will you measure and analyze small r*?*

Main height, one and one-fourth spaces; whole width, two spaces; width from first curve to shoulder turn, measured horizontally, one-fourth space.

Analysis: Principles, 2, 3, 1, 2.

91. How should the small r *be formed?*

Begin on base line and ascend with a right curve on connective slant one and one-quarter spaces; make a light dot, and descend with a slight left curve nearly vertical (5° to left of vertical), one-fourth of a space; turn short, and descend with a straight line on main slant to base; turn short again, and ascend with a right curve on connective slant, one space.

92. Will you measure and analyze small s*?*

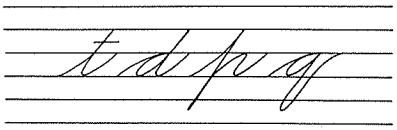
Height, one and one-fourth spaces; width, measured horizontally at one-third of height, one-half of a space; height of dot above base, one-fourth space; entire width, two spaces.

Analysis: Principles, 2, 3, 2, 2.

93. How should the small s *be formed?*

Begin on base line and ascend with a right curve the same as in *r*; unite angularly, and descend with slight left curve one-third space, and merging into a full right curve, continue to base; turn short and make a slight dot on first curve, one-quarter of a space above base line; then retracing to base ascend with a finishing right curve on connective slant, one space.

94. What four letters do we call Semi-extended?

The 

95. Why are these letters called semi-extended?

Because, as to length, they are between the *short letters* and the *extended letters.*

96. What is the height of t, d and p above base line?

Two spaces.

97. How far do the p and q drop below base line?

One and one-half spaces.

98. Will you measure and analyze the small t?

Main height, two spaces; first curve joins descending straight line one space above base; entire width, two spaces; height of final curve, one space; distance of cross stroke below top, one-half space; length of cross stroke, one space.

Analysis: Principles, 2, 1, 2, 1.

99. How should the small t *be formed?*

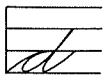
Begin on base line and ascend with a right curve on connective slant, one space, and continue with same curve on main slant, another space; at top unite squarely, and descend with a straight line on main slant, covering the curve one space, and continuing to base line; turn short, and ascend by a right curve on connective slant one space. Finish with a horizontal straight stroke, crossing the main part one-half space below top, one-third being on the left, and two-thirds on the right.

100. Will you measure and analyze small d?

Height of first part, one space; full height, two spaces: entire width, three spaces; opening between oval and straight line, one space.

Analysis: Principles, 3, 3, 2, 1, 2.

101. How should small d *be formed?*



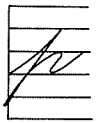
Beginning upon base line, form the first curve and *pointed oval* precisely as in *a*, omitting shade; without lifting the pen, the remainder of *d* is formed like the *t*, without crossing.

102. Will you measure and analyze small p*?*

Length above base line, two spaces; length below, one and one-half spaces; first curve unites with long straight line at top; height of finishing part, one space; entire width, three spaces.

Analysis: Principles, 2, 1, 3, 1, 2.

103. How should small p *be formed?*



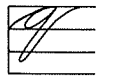
Begin on base line, and ascend with a right curve a little to the left of connective slant, two spaces; unite angularly and descend with a straight line on main slant, crossing the base line one space from beginning point, and terminating squarely one and one-half spaces below; retrace lightly to base line, and diverging finish precisely like the right half of the *n*.

104. Will you measure and analyze small q*?*

Height above base line, one space; length below, one and one-half spaces; entire width, three spaces; width of part below base line, one-third space.

Analysis: Principles, 3, 3, 2, 1, 2, 3.

105. How should small q *be formed?*

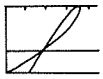


Begin on base line and form a *pointed oval* as described in *a*; at top unite angularly, and descend with a straight line on main slant one and one-half spaces below the base line; turn short, and ascend with a slight right curve on main slant to base line, and finish with a left curve one space above, and one space to right of pointed oval.

106. Will you measure the Fourth Principle, or extended loop?

Height, three spaces; horizontal width of loop one-half space; length from turn of loop to crossing, two spaces; width on base line one space.

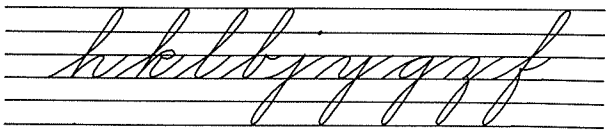
107. How should the Fourth Principle or Loop be formed?



Begin on base line, and ascend with a right curve three spaces; turn short, and descend with a slight left curve on main slant two spaces; then crossing first curve, continue with a straight line on main slant to base.

108. Which are the Loop, or Extended Letters?

The



109. Which Principle is most prominent in the Extended Letters?

The Fourth Principle, or Extended Loop.

110. What is the length of the Looped or Extended Letters?

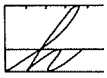
Three spaces; except the f, which is five spaces in length, extending three spaces above and two below base line.

111. Will you measure and analyze small h*?*

Height, three spaces; width of loop measured horizontally, one-half space; crossing of loop, one space above base; entire width of letter, three spaces; height of finishing part, one space.

Analysis: Principles, 4, 3, 1, 2.

112. How should small h *be formed?*



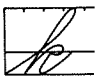
Beginning upon base line form the *extended loop*, as just described; uniting angularly, make the remainder of the letter precisely like the right half of the *n*.

113. Will you measure and analyze small k*?*

Main height, three spaces; width of loop, one-half space; crossing of loop, one space above base line; distance between the two straight lines, one-half space; between loop crossing and right end of small oval, one space; between second straight line and top of final curve, one space.

Analysis: Principles, 4, 3, 2, 1, 2.

114. How should the small k *be formed?*



Form the *Extended Loop* as described in *h*; then, uniting angularly, ascend with a left curve one and one-fourth spaces above base, and one space to the right of loop crossing; return leftward with a right curve one-half space to a point one space above base line; unite angularly, and descend with a straight line on main slant to base; turn short and make final curve as in *u*.

115. Will you measure and analyze small l*?*

Main height, three spaces; height of loop crossing above base line, one space; height of final curve, one space; main width, two spaces; width of loop, one-half space.

Analysis: Principles 4, 2.

116. How should the small l *be formed?*

Form *Loop* as described in *h*; turn short and finish as in *i* or *u*, with a right curve, ascending on connective slant one space.

117. Will you measure and analyze small b*?*

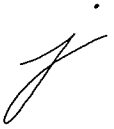
Main height, three spaces; height of loop crossing above base line, one space; entire width of letter, two spaces; width of *Loop*, one-half space; width from loop crossing to dot, one-half space; and from dot to end of final curve, one-half space.

Analysis: Principles 4, 2, 2.

118. How should the small b *be formed?*

Form *Loop* as described in *h*; turn short, and finish as described in *w* and *v*.

119. Will you measure and analyze small j*?*



Height above base line, one space; length below base line, two spaces; main width, two spaces; width of loop, one-half space; height of dot above angle at top, one space.

Analysis: Principles 2, 4.